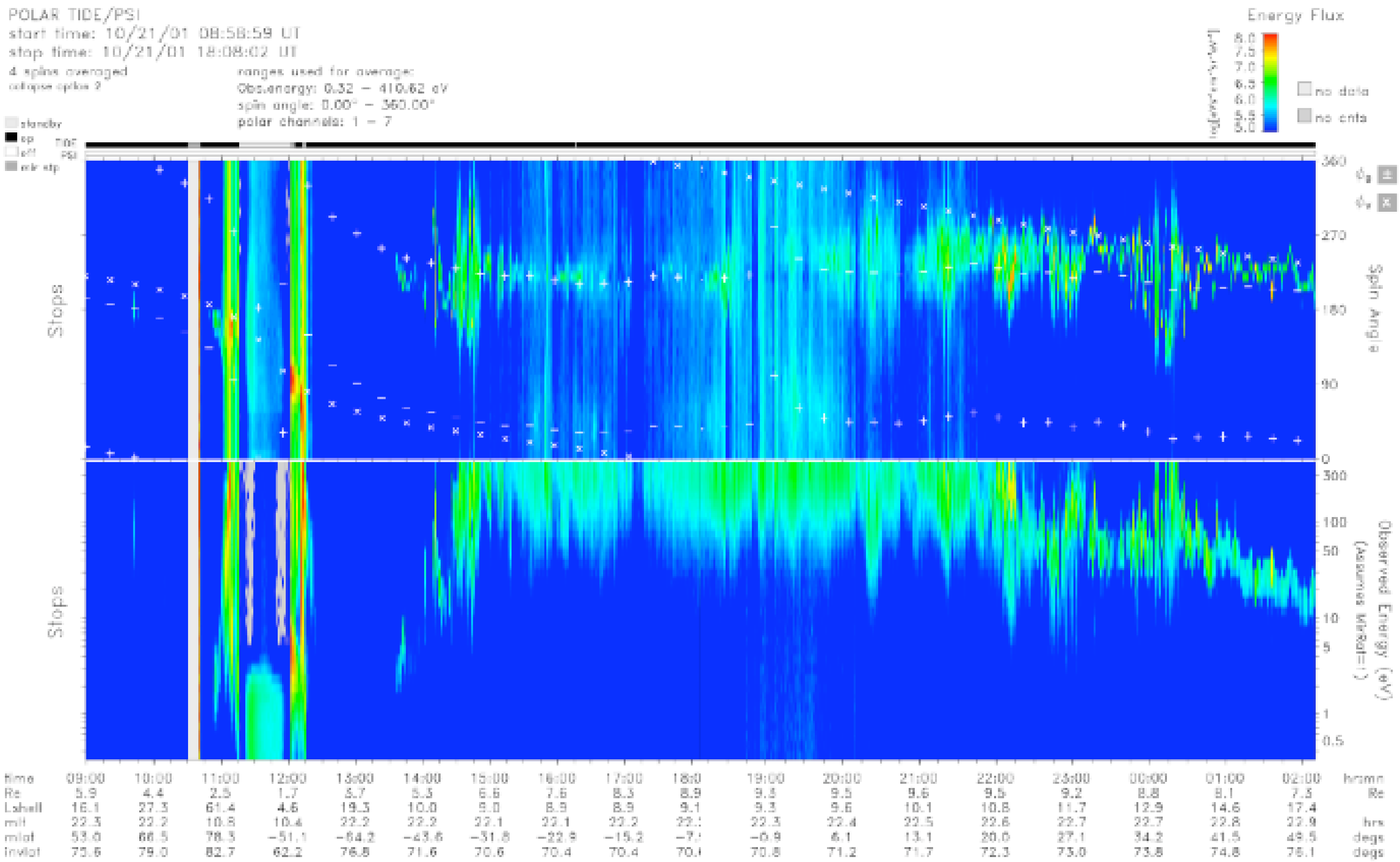
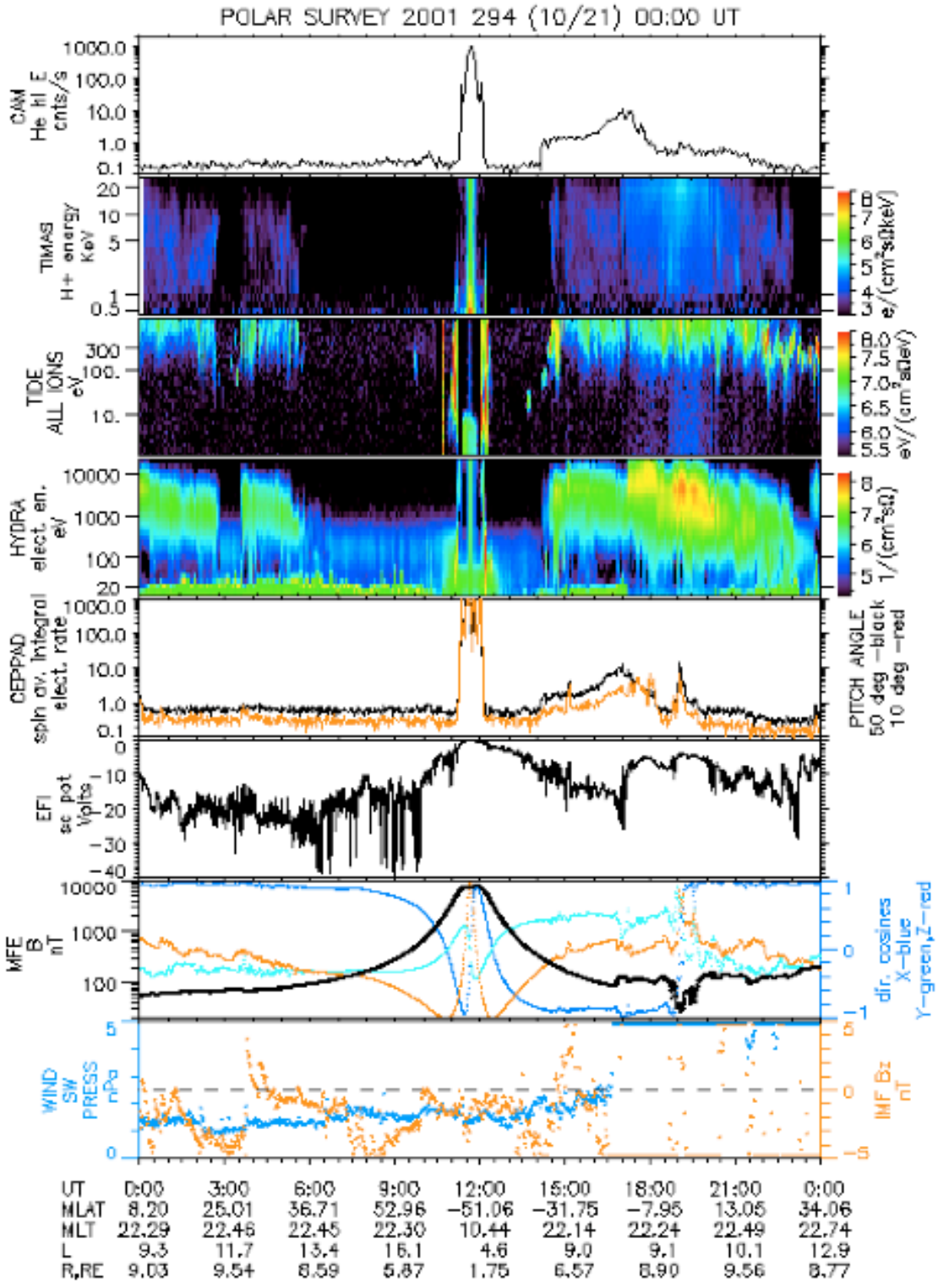


POLAR TIDE/PSI
start time: 10/21/01 08:58:59 UT
stop time: 10/21/01 18:08:02 UT
4 spins averaged
ranges used for average:
Obs.energy: 0.32 – 410.62 eV
spin angle: 0.00° – 360.00°
polar channels: 1 – 7
standby
op
off
TIDE
PSI
Energy Flux
8.0
7.5
7.0
6.5
6.0
5.5
5.0
no data
no cnts
Steps
Spin Angle
Observed Energy (eV)
Steps
time
Re
Lshell
mlt
mlat
invlat
hrmn
Re
hrs
degs
degs

Figure 1



Wed May 21 03:44:15 2003

Figure 2

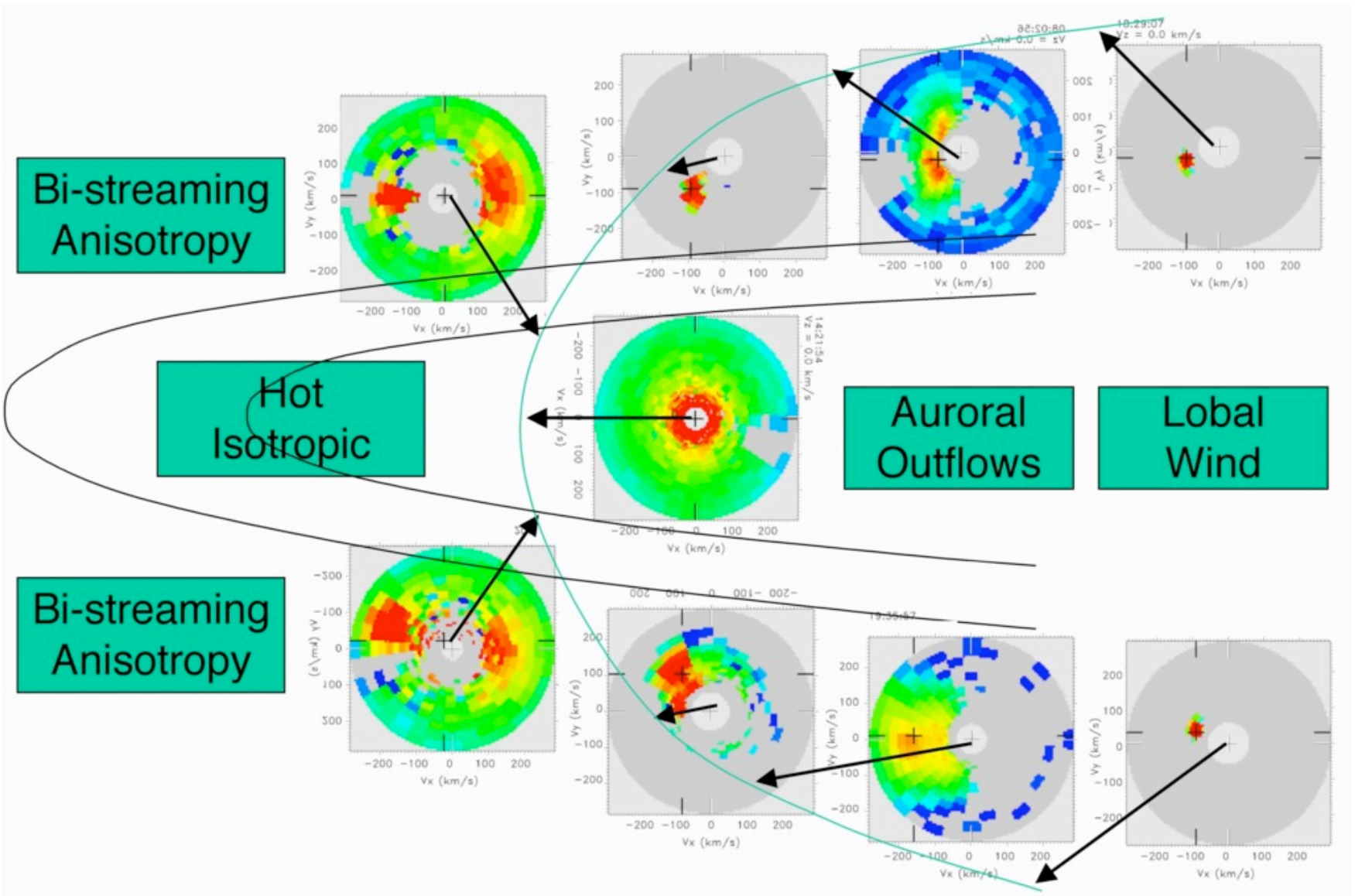

Bi-streaming Anisotropy
Hot Isotropic
Auroral Outflows
Lobal Wind
Bi-streaming Anisotropy
Vx (km/s)
Vy (km/s)

Figure 3

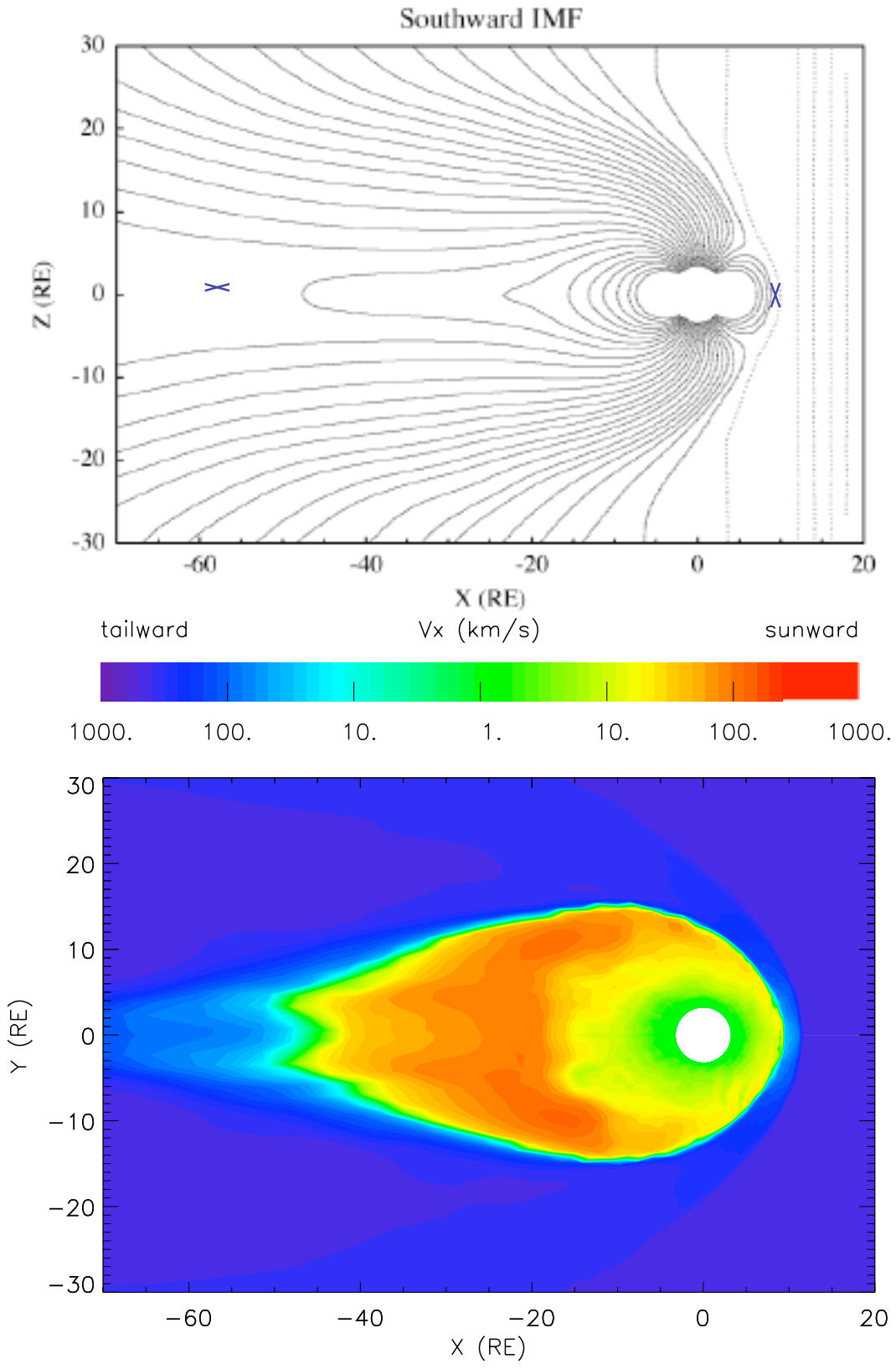

Southward IMF
30
20
10
0
-10
-20
-30
Z (RE)
-60
-40
-20
0
20
X (RE)
tailward
Vx (km/s)
sunward
1000.
100.
10.
1.
10.
100.
1000.
30
20
10
0
−10
−20
−30
Y (RE)
−60
−40
−20
0
20
X (RE)

Figure 4

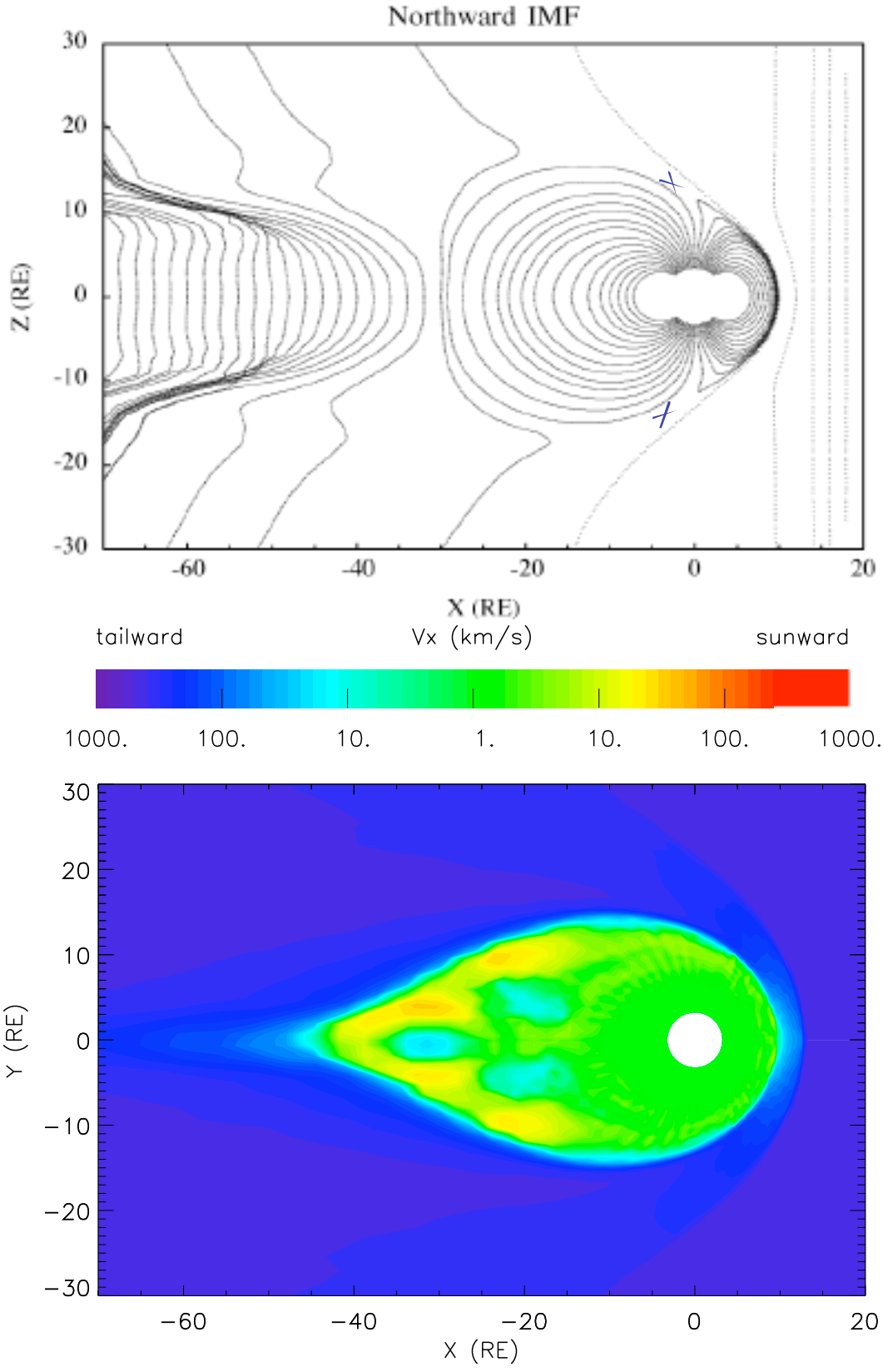

Northward IMF
30
20
10
0
-10
-20
-30
Z (RE)
-60
-40
-20
0
20
X (RE)
tailward
Vx (km/s)
sunward
1000.
100.
10.
1.
10.
100.
1000.
30
20
10
0
−10
−20
−30
Y (RE)
−60
−40
−20
0
20
X (RE)

Figure 5

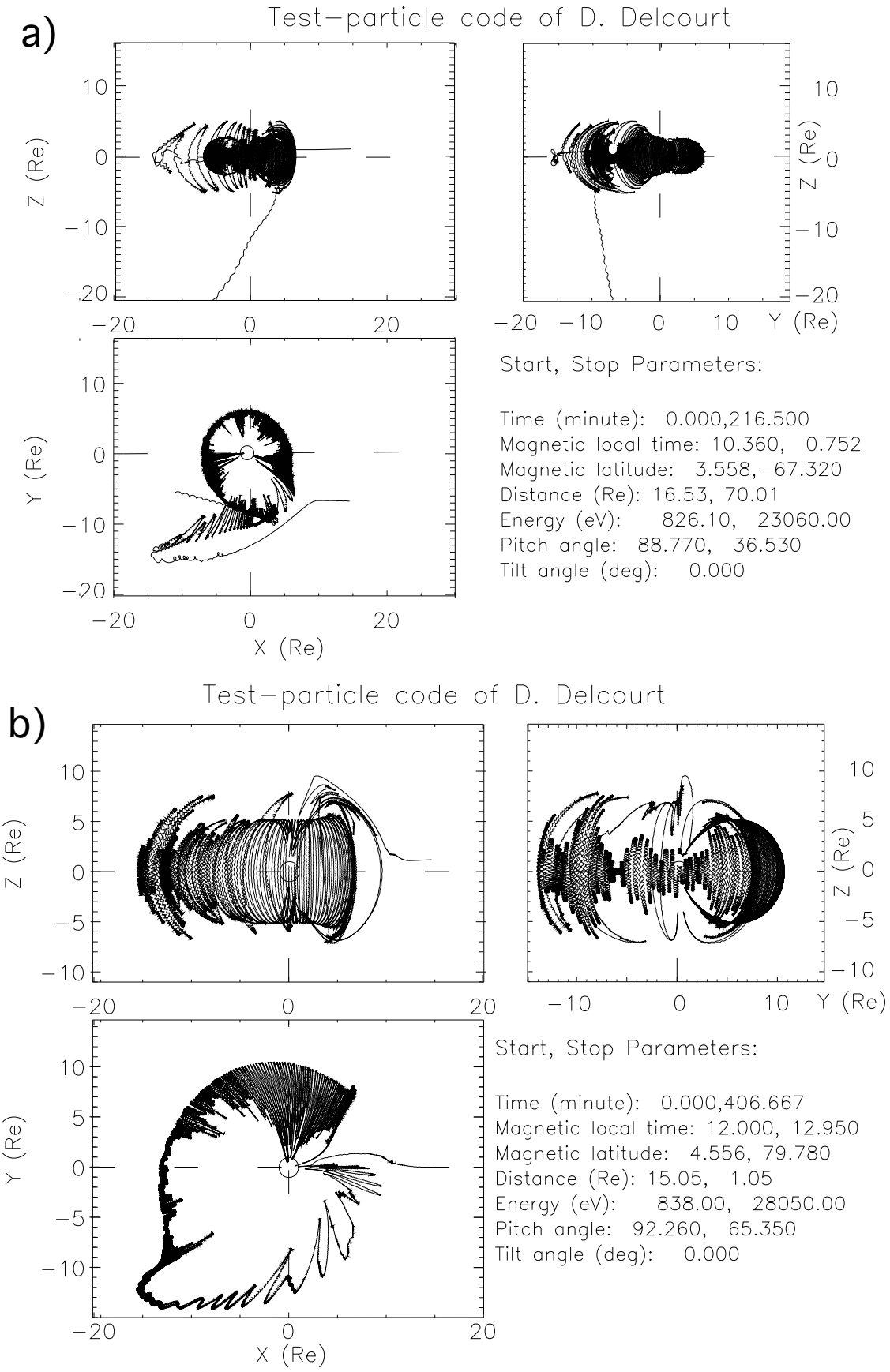

a)
Test−particle code of D. Delcourt
Z (Re)
Y (Re)
X (Re)
Start, Stop Parameters:
Time (minute): 0.000,216.500
Magnetic local time: 10.360, 0.752
Magnetic latitude: 3.558,−67.320
Distance (Re): 16.53, 70.01
Energy (eV): 826.10, 23060.00
Pitch angle: 88.770, 36.530
Tilt angle (deg): 0.000
b)
Test−particle code of D. Delcourt
Z (Re)
Y (Re)
X (Re)
Start, Stop Parameters:
Time (minute): 0.000,406.667
Magnetic local time: 12.000, 12.950
Magnetic latitude: 4.556, 79.780
Distance (Re): 15.05, 1.05
Energy (eV): 838.00, 28050.00
Pitch angle: 92.260, 65.350
Tilt angle (deg): 0.000

Figure 6

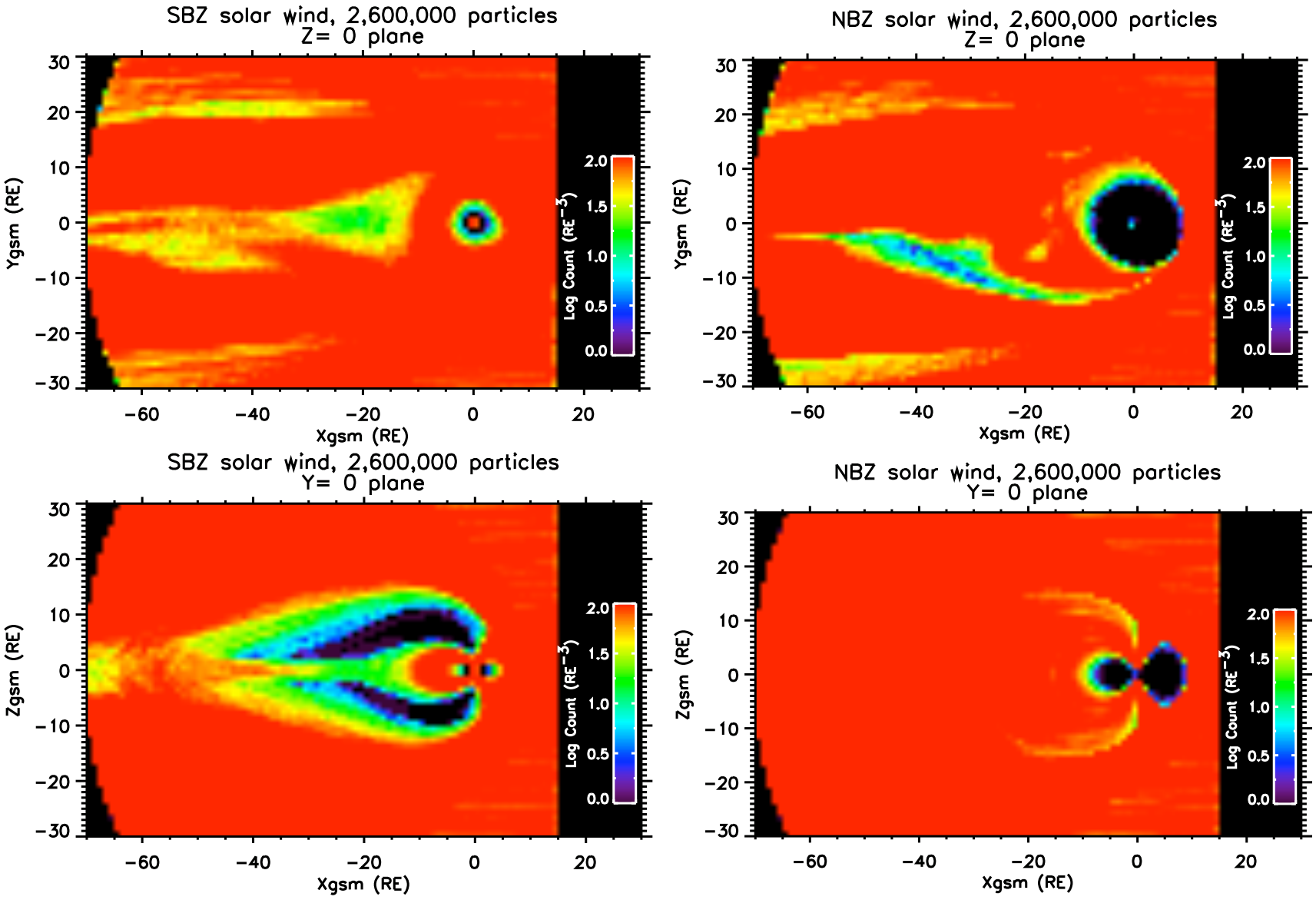

SBZ solar wind, 2,600,000 particles
Z= 0 plane
NBZ solar wind, 2,600,000 particles
Z= 0 plane
SBZ solar wind, 2,600,000 particles
Y= 0 plane
NBZ solar wind, 2,600,000 particles
Y= 0 plane
Ygsm (RE)
Zgsm (RE)
Xgsm (RE)
Log Count (RE^{-3})
30
20
10
0
−10
−20
−30
−60
−40
−20
0
20
2.0
1.5
1.0
0.5
0.0

Figure 7

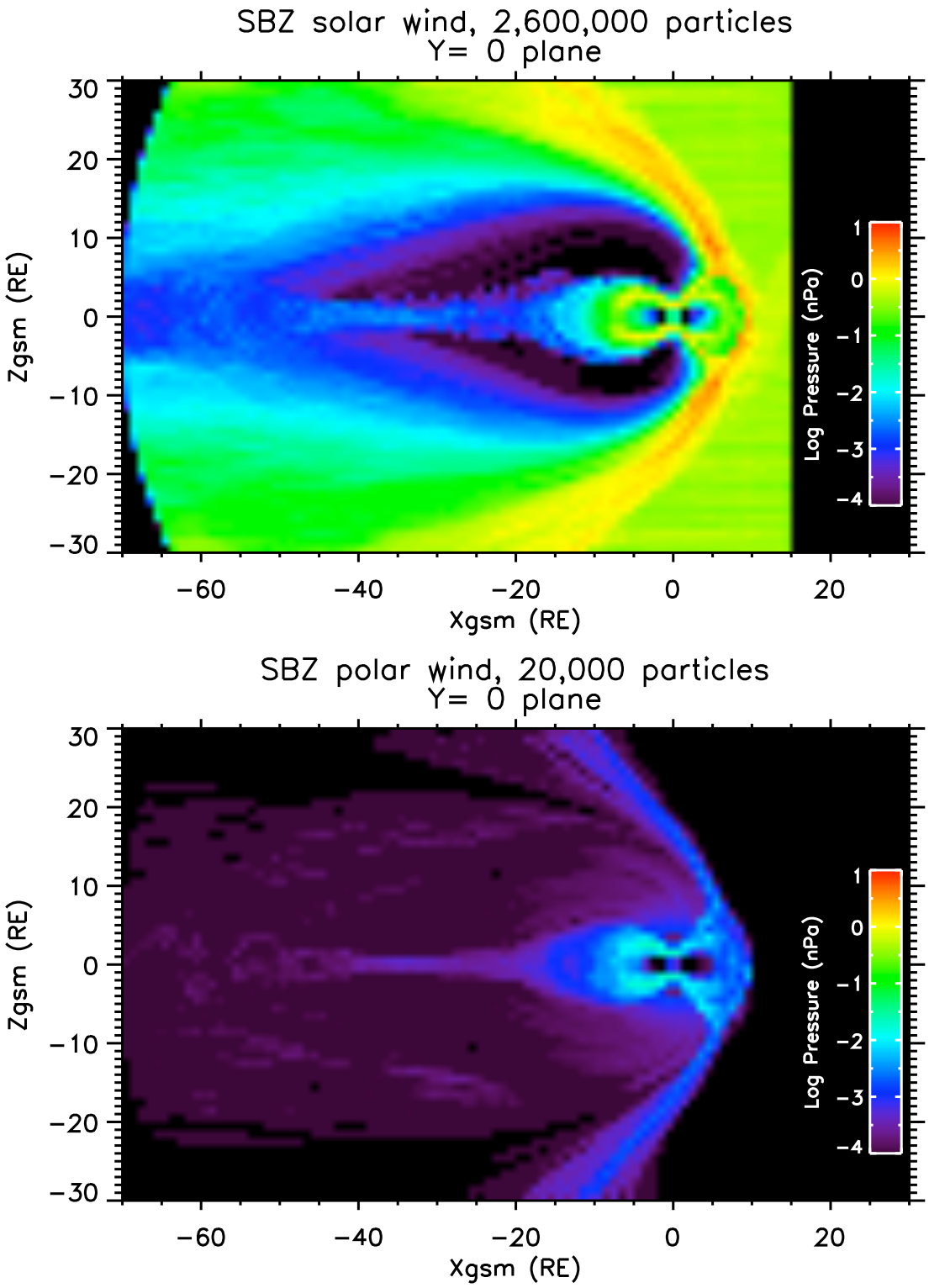

SBZ solar wind, 2,600,000 particles
Y= 0 plane
Zgsm (RE)
Xgsm (RE)
Log Pressure (nPa)
SBZ polar wind, 20,000 particles
Y= 0 plane
Zgsm (RE)
Xgsm (RE)
Log Pressure (nPa)

Figure 8

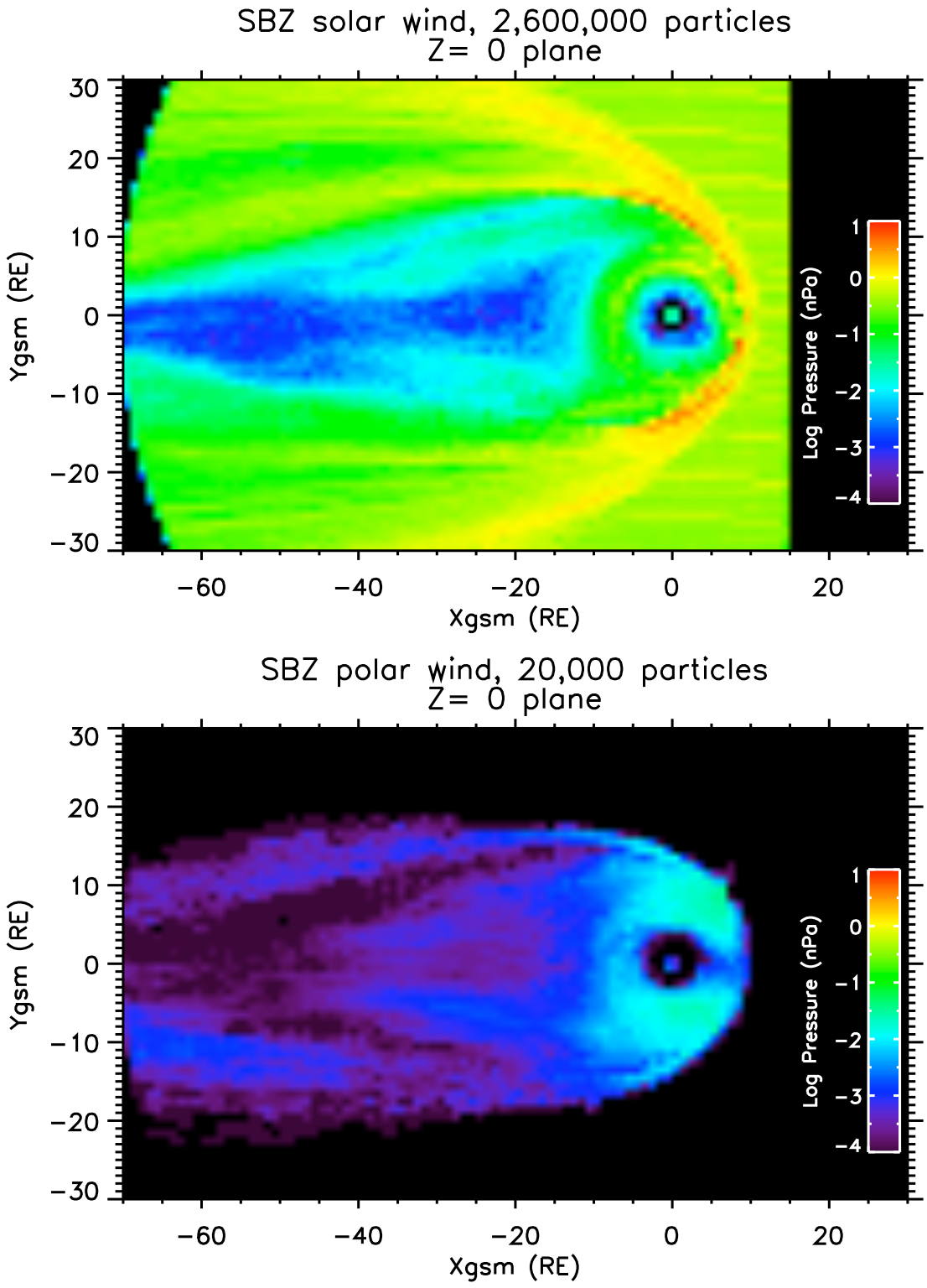

SBZ solar wind, 2,600,000 particles
Z= 0 plane
Ygsm (RE)
Xgsm (RE)
Log Pressure (nPa)
SBZ polar wind, 20,000 particles
Z= 0 plane
Ygsm (RE)
Xgsm (RE)
Log Pressure (nPa)

Figure 9

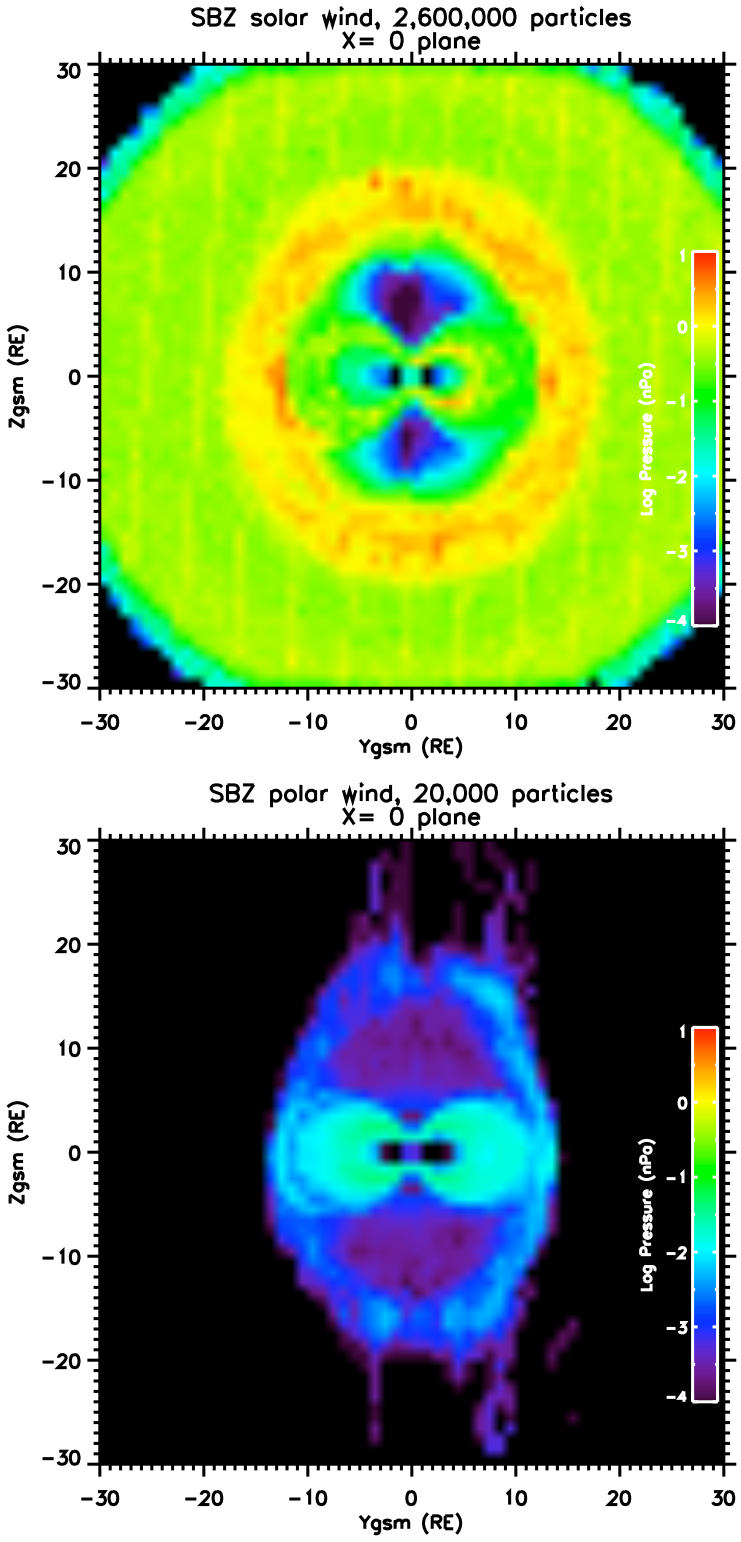

SBZ solar wind, 2,600,000 particles
X= 0 plane
Zgsm (RE)
Ygsm (RE)
Log Pressure (nPo)
SBZ polar wind, 20,000 particles
X= 0 plane
Zgsm (RE)
Ygsm (RE)
Log Pressure (nPo)

Figure 10

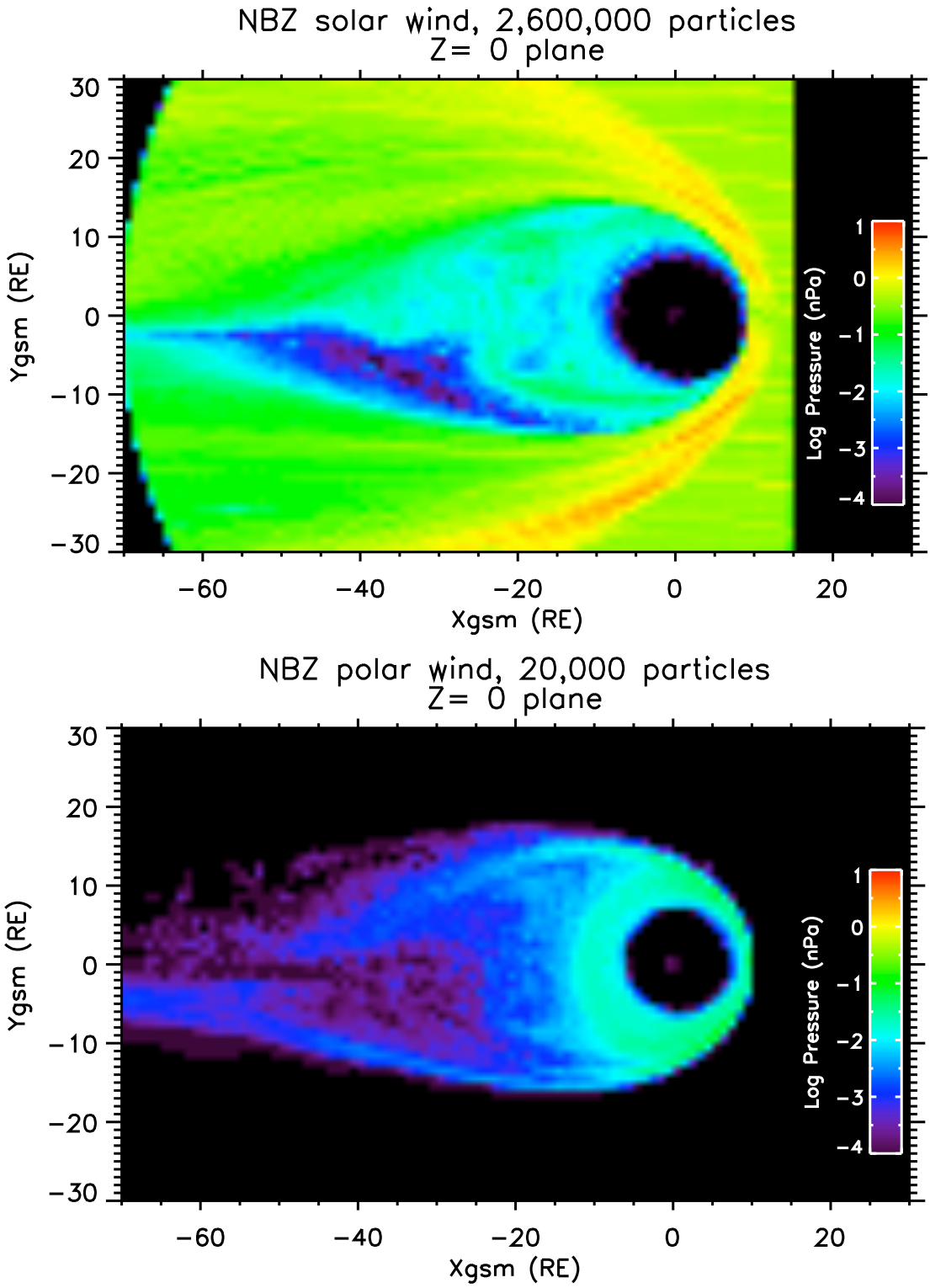

NBZ solar wind, 2,600,000 particles
Z= 0 plane
Ygsm (RE)
Xgsm (RE)
Log Pressure (nPa)
NBZ polar wind, 20,000 particles
Z= 0 plane
Ygsm (RE)
Xgsm (RE)
Log Pressure (nPa)

Figure 11

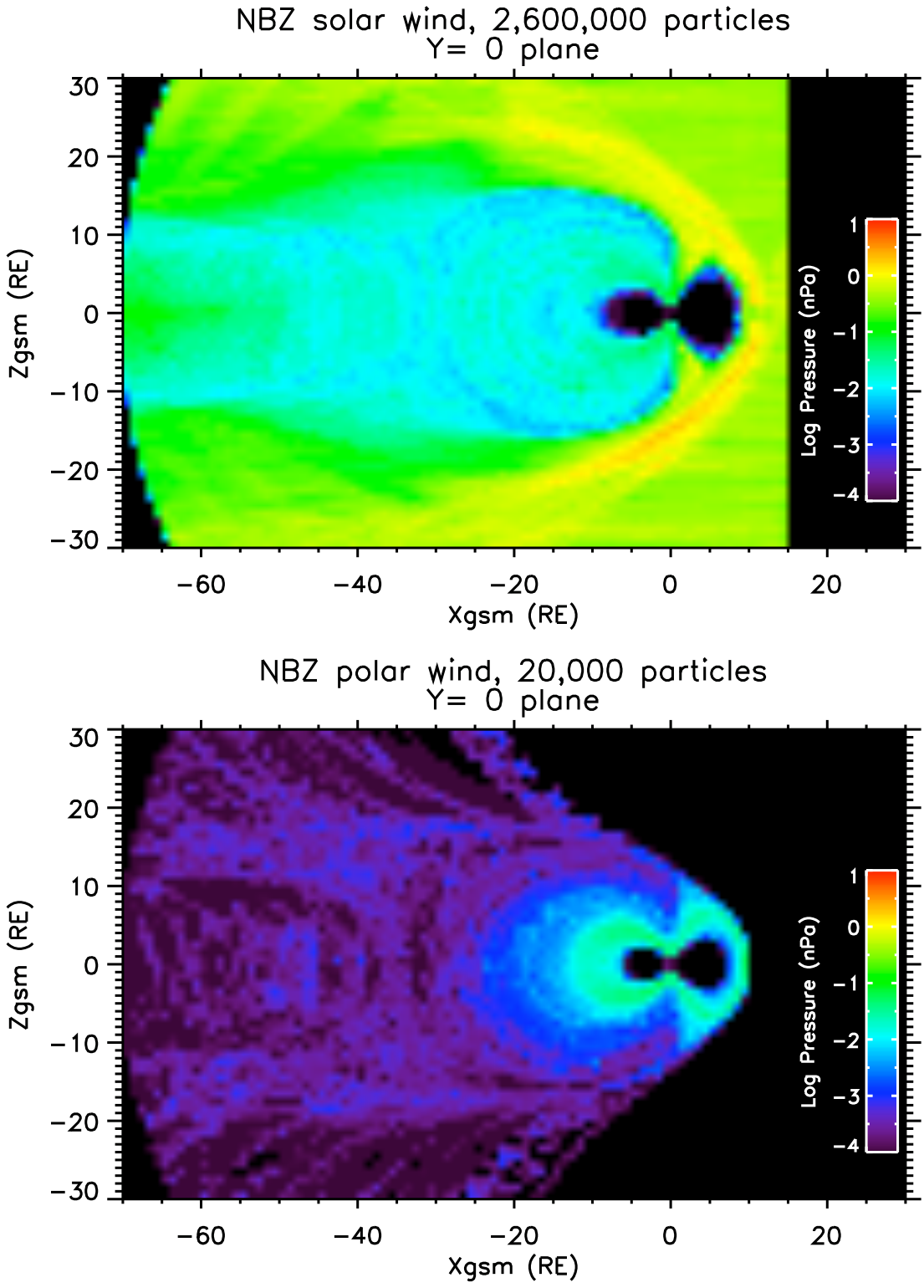

NBZ solar wind, 2,600,000 particles
Y= 0 plane
Zgsm (RE)
Xgsm (RE)
Log Pressure (nPa)
NBZ polar wind, 20,000 particles
Y= 0 plane
Zgsm (RE)
Xgsm (RE)
Log Pressure (nPa)

Figure 12

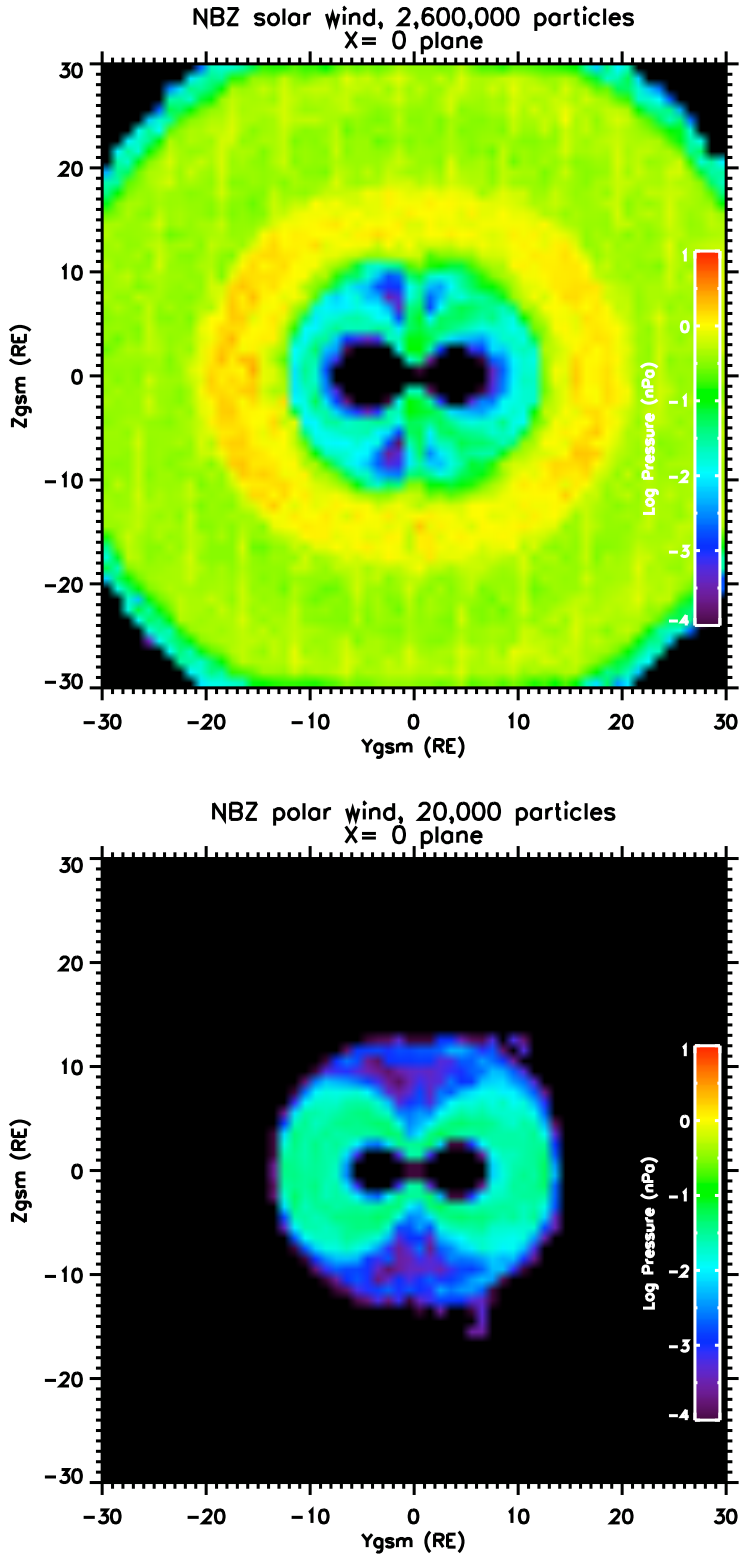

NBZ solar wind, 2,600,000 particles
X= 0 plane
Zgsm (RE)
Ygsm (RE)
Log Pressure (nPa)
NBZ polar wind, 20,000 particles
X= 0 plane
Zgsm (RE)
Ygsm (RE)
Log Pressure (nPa)

Figure 13

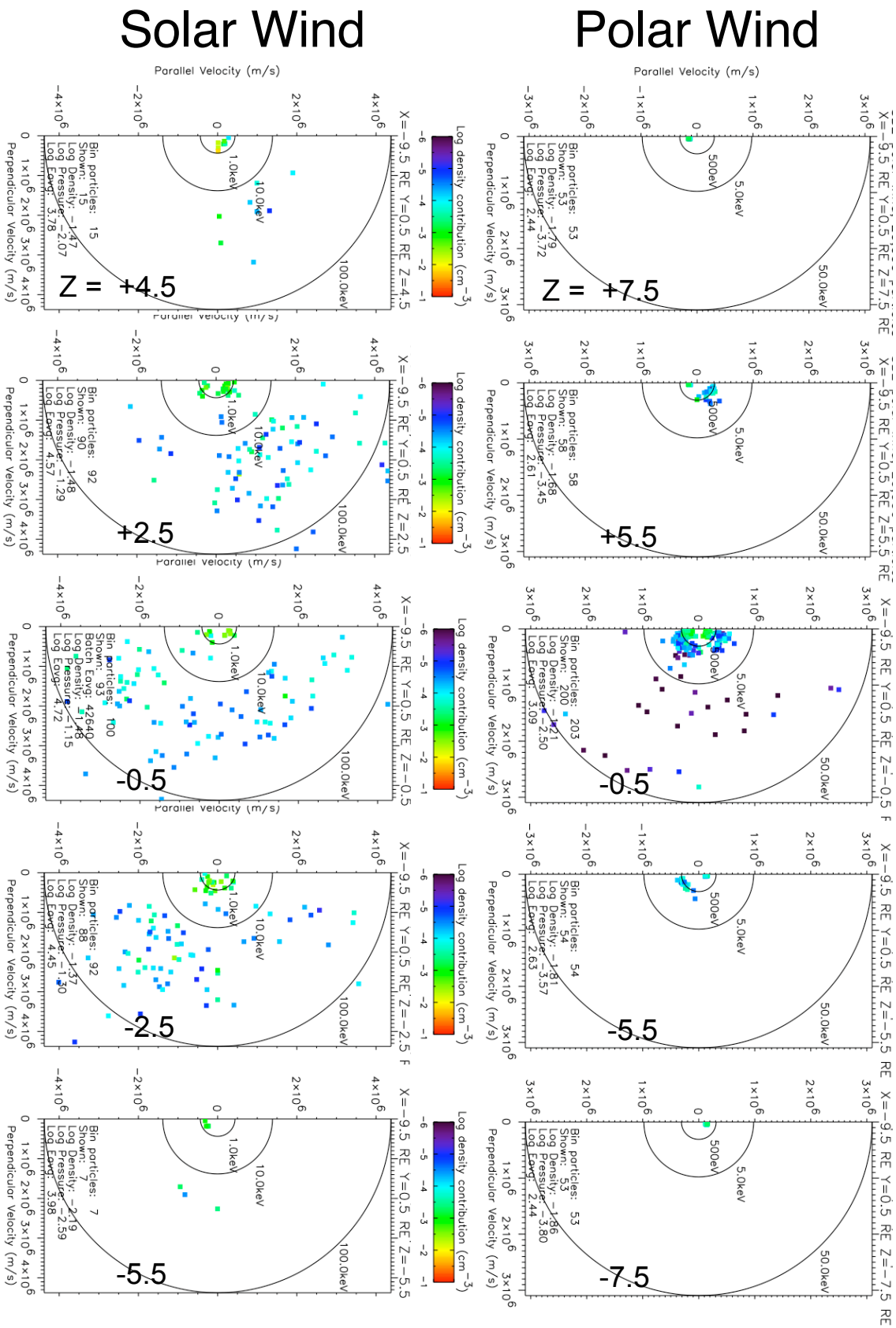

Solar Wind
Polar Wind
Parallel Velocity (m/s)
Perpendicular Velocity (m/s)
Log density contribution (cm^{-3})
Z = +7.5
+5.5
-0.5
-5.5
-7.5
Z = +4.5
+2.5
-0.5
-2.5
-5.5
500eV
1.0keV
5.0keV
10.0keV
50.0keV
100.0keV

Figure 14a

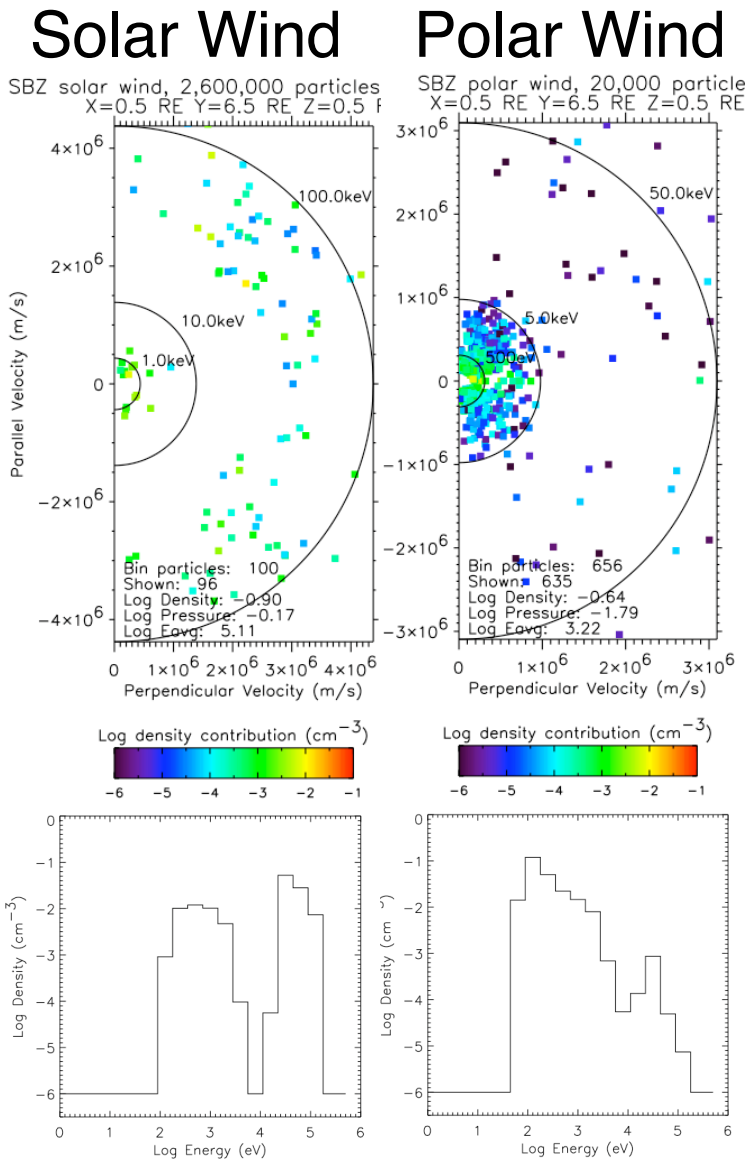
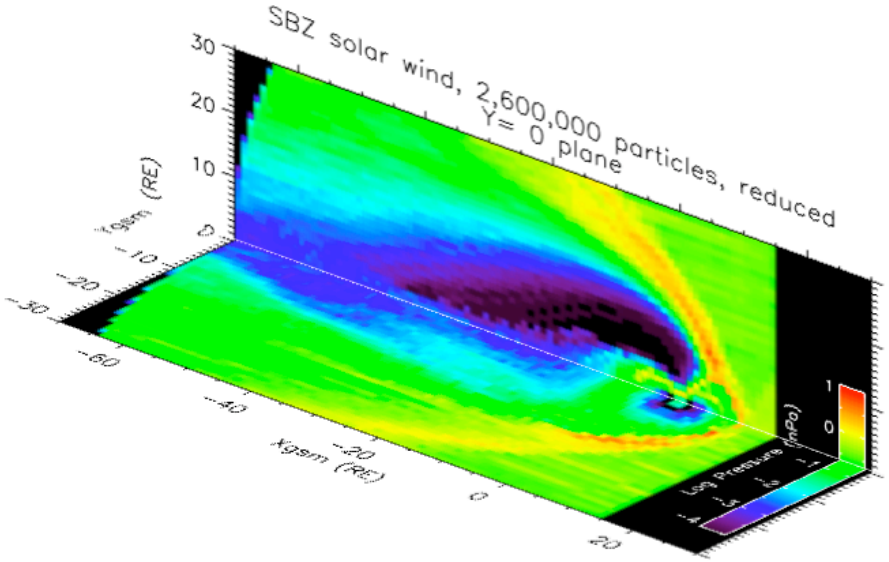
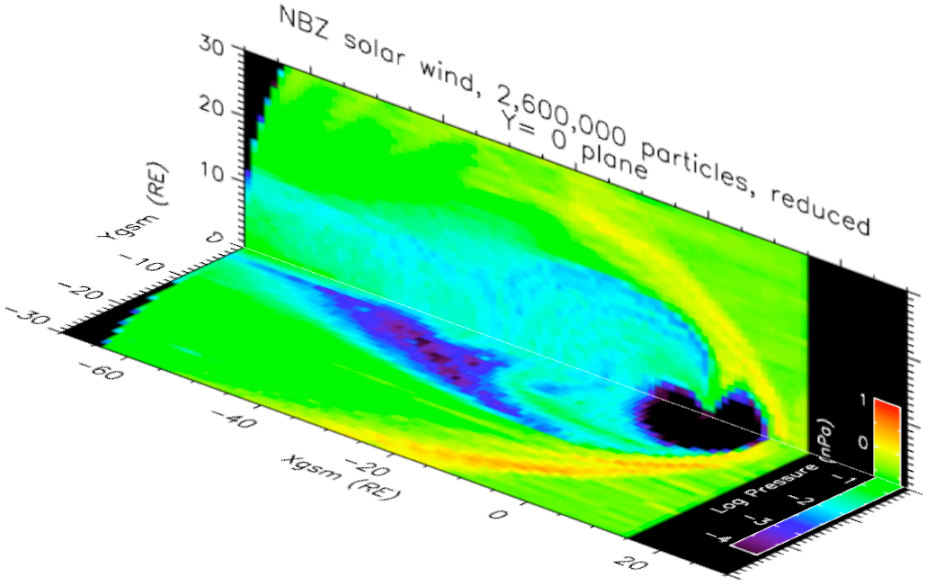

Solar Wind
Polar Wind
SBZ solar wind, 2,600,000 particles
X=0.5 RE Y=6.5 RE Z=0.5 R
SBZ polar wind, 20,000 particle
X=0.5 RE Y=6.5 RE Z=0.5 RE
100.0keV
10.0keV
1.0keV
50.0keV
5.0keV
500eV
Bin particles: 100
Shown: 96
Log Density: −0.90
Log Pressure: −0.17
Log Eavg: 5.11
Bin particles: 656
Shown: 635
Log Density: −0.64
Log Pressure: −1.79
Log Eavg: 3.22
Parallel Velocity (m/s)
Perpendicular Velocity (m/s)
Log density contribution (cm−3)
Log Density (cm−3)
Log Energy (eV)

Figure 14b

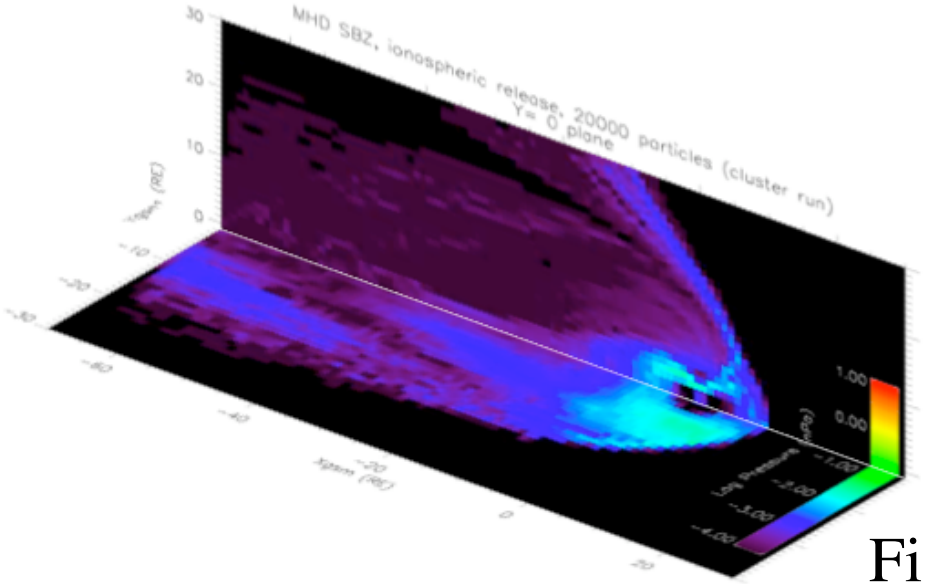
Solar SBz



Solar NBz



Polar SBz



Polar NBz

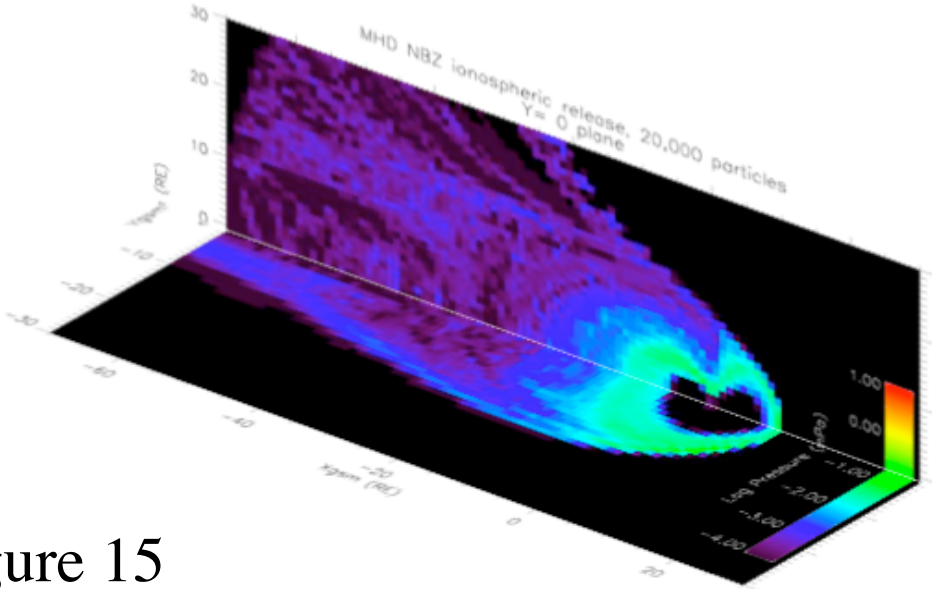


Figure 15